

Remarks

In response to the non-final Office Action mailed November 30, 2005, the Applicant respectfully requests reconsideration of the rejections and that the case pass to issue in light of the amendments above and the remarks below. By this paper, dependent claims 6-10 are rewritten in independent from as claims 21-25 and claims 11-20 are cancelled such that claims 1-10 and 21-25 are pending.

The Examiner has allowed dependent claims 6-10 and rejected claims 1-10 as being unpatentable under 35 U.S.C. § 103(a) over USPN 6,450,274 to Konno and separately over USPN 6,543,561 to Pels.

Rejection of Claims 1-10 under § 103(a) over Konno

Claims 1-10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over USPN 6,450,274 to Konno. Claim 1 is the only rejected independent claim and is limited to regulating voltage of the a first electrical bus (accessory load bus) within a predefined voltage range while a second electrical bus (electric assist bus) provides energy to an electric motor for electric motor traction assist.

The Applicant submits the Konno patent fails to disclose the foregoing limitations. The Konno patent relates to correcting electric power assist as a function of catalyzer device temperature so that the catalyzer can be rapidly heated. The Konno patent, however, fails to provide any suggestion, motivation, or incentive for regulating an accessory load bus when energy is provided by an electric power assist bus to drive an electric motor, as recited in claim 1.

The Examiner cites to the following portion of the Konno patent to support the obviousness of modifying the teachings of the Konno patent to include regulating the aforementioned accessory load bus during powering of the electric motor:

The control unit ECU7 controls the down-converter 9 to reduce an output voltage of the accumulator 5 to a specified value (12V) to charge a 12-volt power-supply battery 10 which load is shown by a reference numeral 11 in FIG. 1. (Column 2, Lines 37-41)

This passage merely suggests controlling charging of the battery with energy from the accumulator. This portion fails to teach regulating battery charging during driving of an electric motor. There mere possibility of the Konno patent being able to regulate the battery voltage is insufficient to support the obviousness rejection.

In the absence of an express teaching to the foregoing regulation, the Examiner is essentially asserting such regulation would be well within the ordinary skill of the art in light of the Konno citation. This argument, however, is also insufficient.

As noted in MPEP § 2143.01, there must be some objective reason to modify the Konno patent to include regulating voltage of the accessory load bus during driving of the electric motor. In more detail, MPEP § 2143.01 states:

A statement that modifications of the prior art to meet the claimed invention would have been "'well within the ordinary skill of the art at the time the claimed invention was made'" because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a prima facie case of obviousness without some objective reason to combine the teachings of the references. Ex parte Levengood, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993).

There is no objective reason to modify the teaching of the Konno patent to include regulating the accessory load bus during electric motor traction assist, absent improper hindsight reasoning derived from the Applicant's application. Accordingly, the Applicant respectfully submits independent claim 1 and dependent claims 2-10 are patentable and nonobvious over the Konno patent.

Rejection of Claims 1-10 under § 103(a) over Pels

Claims 1-10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over USPN 6,543,561 to Pels. Claim 1 is the only rejected independent claim and is limited to regulating voltage of the a first electrical bus (accessory load bus) within a predefined voltage range while a second electrical bus (electric assist bus) provides energy to an electric motor for electric motor traction assist.

The Applicant submits the Pels patent fails to disclose the foregoing limitations. The Pels patent relates to controlling hybrid electric vehicles during internal combustion engine start/stop operations so as to provide delay-free driving away and low noise and pollutant emissions. The Pels patent, however, fails to provide any suggestion, motivation, or incentive for regulating an accessory load bus when energy is provided by an electric power assist bus to drive an electric motor, as recited in claim 1.

The Examiner cites to the following portion of the Pels patent to support the obviousness of modifying the teachings of the Pels patent to include regulating the aforementioned accessory load bus during powering of the electric motor:

After the drive-away operation (described in greater detail below), during which the electric machine 6 takes electrical energy from the high-capacity storage device 10, it can function as a generator, i.e. can supply electrical energy. This is used to charge the high-capacity storage device 10 and the low-voltage battery 12 and to supply loads, e.g. high-power loads (e.g. electromagnetic valve gear) at an elevated voltage level (e.g. the level of the interface circuit) and normal loads in the low-voltage system 11, more specifically after rectification by the inverter 9a and, if appropriate, voltage reduction by the DC-DC converter 9c. During operation of the engine, the inverter 9a converts the DC voltage supplied to the interface circuit 9b by the high-capacity battery 10 into AC voltage. A higher-level control unit 13 controls the converter 9, more specifically the inverter 9a and the DC-DC converter 9c. It also

controls the internal combustion engine 1 and the (automatic) clutch 3.

(Column 6, Lines 12-29, Emphasis Added)

The Pels patent only teaches to charging a batter after completion of a drive-away operation wherein the internal combustion engine, and not an electric motor, is used to driver the vehicle. The Pels patent only teaches regulating (charging) the battery when the electric motor is not running, i.e., it's operating as a generator. Pels is silent with respect to battery regulation during driving of the electric motor.

As noted above, in the absence of an express teaching, the Pels patent must provided at some objective reason to modify its operation to include regulating the battery when the electric motor is used for electric assist. Such objective reason is simply not found or suggested, absent improper hindsight reasoning derived from the Applicant's application. Accordingly, the Applicant respectfully submits independent claim 1 and dependent claims 2-10 are patentable and nonobvious over the Konno patent.

S/N: 10/605,350

Reply to Office Action of November 30, 2005



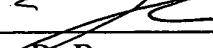
Atty Dkt No. 81044331 / FMC 1579 PUS

Conclusion

In view of the foregoing, the Applicant respectfully submits each rejection has been fully replied to and that the case is in condition to pass to issue. The Examiner is respectfully requested to pass the case to issue and is invited to contact the undersigned if it would further prosecution of this case to issue. No fees are believed to be due in connection with this paper, however, authorization is provided to charge any required fees to Deposit Account No. 61,510.

Respectfully submitted,

Frano Leonardi

By 
John R. Buser
Reg. No. 51,517
Attorney/Agent for Applicant

Date: 1-24-06

BROOKS KUSHMAN P.C.
1000 Town Center, 22nd Floor
Southfield, MI 48075-1238
Phone: 248-358-4400
Fax: 248-358-3351